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August 21, 2001

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Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

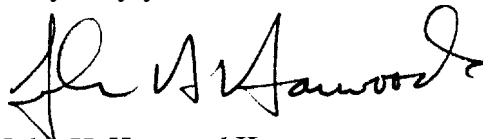
Re: *Developing a Unified Intercarrier Compensation Regime, CC Docket
No. 01-92*

Dear Ms. Salas:

On behalf of Qwest Communications International, Inc. ("Qwest"), I enclose for filing an original and four copies of Qwest's comments in the above-referenced proceeding. Pursuant to the *Notice of Proposed Rulemaking* released by the Commission on April 27, 2001, diskette copies of Qwest's comments are being served separately on Ms. Wanda Harris and ITS, Inc.

Please do not hesitate to contact me with any questions or concerns.

Very truly yours,



John H. Harwood II

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August 21, 2001

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**Before the
Federal Communications Commission
Washington, D.C. 20554**

AUG 21 2001

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

In the Matter of

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Developing a Unified Inter-carrier
Compensation Regime

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CC Docket No. 01-92

COMMENTS OF QWEST COMMUNICATIONS INTERNATIONAL, INC.

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August 21, 2001

EXECUTIVE SUMMARY

In a rational telecommunications world, a carrier would be just a carrier and a call would be just a call. But this is not yet that world. Legacy regulation, rather than any underlying market necessity, is principally responsible for the balkanization of the telecommunications industry into specialized carriers providing specialized services. The existing crazy-quilt of intercarrier compensation schemes reflects and reinforces these artificial distinctions among carriers, and it creates unavoidable opportunities for economically irrational, regulation-driven arbitrage. Qwest's ambition, like the Commission's, is to shatter those artificial distinctions, and this proceeding is a critical step in the right direction. As an incumbent LEC, a CLEC, an IXC, an Internet backbone provider, an **ISP**, and a wireless provider, Qwest transcends regulatory typecasting, and it appears here not as a representative of any particular industry segment, but as a representative of the industry as a whole.

In Qwest's view, the ultimate objective of this proceeding should be the creation of a simple, predictable, and market-oriented intercarrier compensation regime that will apply to any hand-off of traffic on the public switched network, including local traffic, Internet-bound traffic, and conventional access traffic. The best choice for such a regime is bill-and-keep, under which each carrier would recover from its end users the costs of its own access facilities, including the costs of its loops and of the terminating switching function. That approach would present enormous advantages over the existing intercarrier compensation schemes – *i.e.*, the “calling party's network pays” (“CPNF”) regime now applicable to local traffic and the access charge regime applicable to interexchange traffic.

First, bill-and-keep would largely resolve, *without regulatory intervention*, the basic problem underlying any approach to intercarrier compensation: the incentive and ability of

terminating carriers to charge extracompensatory rates for call completion. **So** long as carriers can demand intercarrier compensation for terminating calls of any kind, that “terminating access monopoly” can be alleviated through regulatory intervention, but never truly eliminated; only bill-and-keep can uproot the problem at its source. *Second*, by shifting cost recovery to end users, bill-and-keep would increase the role of market forces, and decrease the role of regulation, in resolving traditionally vexing questions of cost recovery. That advantage is important now, and it will become even more important as competition develops and the need for retail rate regulation diminishes. **As** competition develops and the telecommunications world is increasingly populated by non-dominant carriers, the choice between bill-and-keep and any variant of the CPNP regime is, at bottom, a choice between less regulation of competitive carriers and more. *Finally*, by eliminating any intercarrier charge for termination of traffic on the public switched network, bill-and-keep would increase regulatory stability and – just as important – reduce regulation-driven arbitrage opportunities.

The single most important variable in the establishment of any bill-and-keep regime is the problem of transport: the question of where one carrier’s responsibility ends, and another’s begins, in transporting calls between networks. Although the DeGraba proposal is a promising theoretical start, it suffers from a critical flaw. The default rule it prescribes (transport all the way to the terminating carrier’s central office) is, as DeGraba himself acknowledges, a “penalty default” that would almost inevitably require carriers to engage in extensive, time-consuming negotiations. Like regulation, negotiation imposes significant transactions costs, and rules creating a pervasive need for it should be avoided where possible. The Commission should thus focus its inquiry on a default transport rule that reduces the need for both regulation and negotiation by more closely approximating the ways in which carriers actually interconnect in

the real world. And the Commission should similarly ensure that any transport rule it adopts preserves incentives for competitors to continue providing facilities-based transport alternatives.

The Commission should also accompany the adoption of bill-and-keep with a commitment to increased flexibility in the regulation of end-user rates. Bill-and-keep would fall short of expectations if, for example, access charges retained much of their current inefficient structure and the obligation to pay them in that form were simply shifted from interexchange carriers to end users. Instead, the Commission should allow all carriers, including those traditionally subject to retail rate regulation, to offer their customers a variety of alternative pricing plans – some more usage-sensitive, some more flat-rated – to cover the network costs that interstate access charges currently address. The Commission should also refine existing universal service mechanisms to accommodate what, under **47 U.S.C. § 254(g)**, would be one of the inevitable consequences of bill-and-keep: an increase in total telecommunications rates for end users in high cost areas. The carriers serving those end users, however, should receive additional federal subsidies only to the extent that the relevant end user rates would otherwise exceed an appropriate benchmark.

Finally, with the possible exception of intrastate access traffic, the Commission has legal authority to impose bill-and-keep for any exchange of traffic over the public switched network. That is true both for any interstate access service regulated under **47 U.S.C. § 201** and for any traffic governed by the intercarrier compensation standards of **47 U.S.C. §§ 251(b)(5)** and **252(d)(2)**. Although section **252(d)(2)** is ambiguous in some respects, it explicitly preserves bill-and-keep as a permissible default rule for all traffic subject to section **251(b)(5)**. Because this is an area in which national leadership is urgently needed, the Commission should impose bill-and-keep to the limits of its jurisdiction and, if necessary, persuade the states to follow suit.

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**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
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Developing a Unified Inter-carrier)	CC Docket No. 01-92
Compensation Regime)	

COMMENTS OF QWEST COMMUNICATIONS INTERNATIONAL, INC.

The ambition of the Telecommunications Act of 1996 is the creation of a telecommunications world characterized by much competition and little regulation: a world in which a carrier is just a carrier, a call is just a call, and private parties make the rules. This proceeding on inter-carrier compensation is a bold and critical step toward realizing the Act's deregulatory vision, and Qwest applauds the Commission for opening it.

Of all the carriers that will be commenting in this proceeding, Qwest probably comes closest to sharing the Commission's own broad-based concern for the future development of the industry as a whole, and not just any particular segment of it. In the years since the Act's passage, Qwest has built itself into precisely the sort of boundary-shattering carrier that Congress envisioned, operating in almost every major sector of the telecommunications industry. Having merged with U S WEST, it is the nation's fourth largest incumbent local exchange carrier ("ILEC"), annually collecting roughly \$500 million in switched interstate access revenues. At the same time, Qwest is one of the country's largest interexchange carriers ("IXCs"), with more than \$650 million in annual switched interstate access *expenses*. Qwest is also a facilities-based competitive LEC ("CLEC") that competes for the customers of other ILECs, and to that end it will have deployed fiber rings in more than two dozen out-of-region cities by year's end. On top

of that, Qwest is one of the nation's largest providers of Internet backbone services and of various other services based on Internet protocol. And it provides wireless services to more than one million subscribers.

Qwest's objective is not to specialize in any particular one of these roles, but to pursue them all, in a free market, unfettered by regulations that perpetuate the legacy distinctions that have fragmented this industry. What Qwest seeks is an intercarrier compensation regime that ensures fair competitive conditions for all industry players and permits them to compete solely on their economic and technological merits. That, of course, is the Commission's own central goal in this proceeding. And, as the Commission itself has already tentatively concluded, the best way to ensure rational competition is to adopt bill-and-keep as the compensation rule for any hand-off of traffic on the public switched network.

As the Commission is aware, there now is no consistent scheme of intercarrier compensation rules; there is instead a crazy-quilt of different rules that arise from legacy regulation and follow legacy distinctions among carriers. Interexchange calls are governed by an "access charge" regime in which the carrier in the middle of a call pays the carriers on either end. Exchanges of traffic between LECs competing in the same service area are typically governed by a calling-party's-network-pays("CPNP") regime, in which the originating carrier pays the terminating carrier for the latter's costs of transporting and terminating calls to their ultimate destinations. Interconnection between adjoining (non-competing) LECs is often, though not always, governed by bill-and-keep. And exchanges of traffic for the purpose of delivering a dial-up call from the customer of an incumbent LEC to a CLEC serving an Internet service provider ("ISP") is now governed by a CPNP regime that, under current plans, will be phased out over time to become more like a bill-and-keep approach. The persistence of these methodological

differences has very little to do with technology or economics and everything to do with the retention of outdated, economically irrational regulatory distinctions.

This proceeding should have, as its ultimate goal, the creation of a unified intercarrier compensation regime in which those legacy distinctions are obliterated, regulation is rare, and utility-maximizing market forces rather than regulatory mandates drive distinctions among telecommunications carriers and services. To glimpse what such a regime would be like, one need look no further than the world of wireless telecommunications, a world that the Commission has largely exempted from legacy regulation. That regulatory restraint has resulted in meaningful competition – based on price, coverage, and quality of service – among different facilities-based providers; in de-emphasis of rigid distinctions between retail local and long-distance services; and in proliferation **of** unregulated, competing retail plans that solve the problem of network cost-recovery through creative mixes **of** flat-rated and usage-sensitive end-user charges.

Although the analogy should not be overstated (in part because wireless carriers are typically not rate-regulated dominant carriers or carriers of last resort), the Commission's successful experiment in non-regulation of wireless services is nonetheless instructive as an objective for the telecommunications world as a whole. The ultimate goal of this proceeding should be, as with the Commission's treatment of wireless, a stable and uncomplicated regulatory environment in which *carriers* and their *end users*, rather than *regulators*, decide which calls should be treated like which other calls and how the *costs* of calls should be recovered over time. To reach that goal, the Commission should begin its analysis with the following first principles:

- ***Market-driven rates.*** The costs of a call should be recovered in a way determined as much as possible by the carriers handling them rather than by regulators. That

approach is optimal because there is no “right” way to price calls so as to recover a carrier’s total network costs. Put another way, regulation could never solve the problem of network cost recovery as well as the market; and, to avoid inefficiency and arbitrage, regulators should therefore leave resolution of that problem as much as possible to carriers and their end users.

- **Consistency.** The same basic principles of intercarrier compensation should apply to any hand-off of traffic over the public switched network for any traffic that touches that network. The rules should not vary with the traditional treatment of any given carrier under legacy regulation. Neither should those rules vary with the type of technology or architecture employed by a particular carrier within its network.
- **Simplicity.** When carriers and end users understand the rules and can rely on their continued applicability into the foreseeable future, they will make efficient decisions regarding the development and use of telecommunications facilities. In contrast, preservation of the existing patchwork of complex and constantly changing intercarrier compensation schemes would have the opposite effect: it would continue to depress rational facilities-based investment and skew the competitive marketplace.

These first principles should be uncontroversial, but they have powerful consequences for the outcome of this proceeding. In these comments, Qwest builds on these principles in proposing the following courses of action.

First, the Commission should adopt bill-and-keep as the appropriate default rule for all traffic, including access traffic, that uses the public switched network. (For these purposes, “bill-and-keep” is broadly defined to mean any compensation rule that would preclude a carrier from charging another carrier for any of the costs of its own local access facilities, including the loop and the local switch that serves it. See *NPRM* ¶ 8 n.10.) Particularly as competition expands and consumers enjoy greater choices among different telecommunications providers, bill-and-keep is the optimal default rule for intercarrier compensation because (1) it would eliminate market-distorting arbitrage opportunities, and the effects of the “terminating access monopoly,” without resort to regulatory intervention; (2) it would permit market forces, rather than regulation, to resolve the question of cost recovery; and (3) by setting intercarrier Compensation for

termination costs at a permanent rate of zero, it is far simpler and more predictable in application than any rival approach. Section I of these comments addresses these issues in detail.

Second, the Commission should seek further comment before reaching any final decision on the single most important variable that separates the different proposed versions of bill-and-keep: the proper allocation of responsibility for transport. Although the DeGraba proposal discussed in the NPRM is a promising start, that proposal falters in proposing a “penalty default” that may be inefficient and would automatically require time-consuming negotiations among carriers.’ The Commission should nonetheless build on the DeGraba proposal and look for ways to improve it. It should focus that inquiry by emphasizing that an optimal transport solution would achieve the following objectives: (1) reduce the need for regulation, (2) prescribe an *efficient* default outcome that reduces the very need for negotiation in many cases, and (3) preserve appropriate incentives for the development of facilities-based competition in the provision of transport services. And it should accordingly investigate whether there might be efficient default rules that would permit originating carriers to relinquish transport responsibility at points that better match the ways in which carriers actually interconnect.

Third, to realize the full potential of bill-and-keep, the Commission should grant all carriers flexibility in the way in which they bill end users to recover the costs that they

¹ Patrick DeGraba and coauthors Jay Atkinson and Christopher Barnekov filed separate Office of Plans and Policy “white papers” in December 2000 proposing different versions of bill-and-keep, and their proposals form the backdrop of the NPRM. *See* Patrick DeGraba, “Bill and Keep at the Central Office as the Efficient Interconnection Regime,” OPP Working Paper #33 (2000) (“DeGraba”) and Jay M. Atkinson & Christopher C. Barnekov, “A Competitively Neutral Approach to Network Interconnection,” OPP Working Paper #34 (2000) (“Atkinson/Barnekov”). Although the two white papers appear to disagree on the question of transport (as discussed in Section II below), they agree on two basic principles of bill-and-keep: (1) that an originating carrier may not charge another carrier for costs internal to the first carrier’s network; and (2) that a terminating carrier should be responsible for all of its own termination costs (i.e., the cost of the loop and end-office switching).

previously recovered from other carriers. Adoption of bill-and-keep would not eliminate the network costs that LECs currently recover through access charges, and LECs would need to recover those costs directly from end users – rather than, as now, *indirectly* from end users through IXCs. Although bill-and-keep is an indispensable methodological step in the right direction, many of its principal benefits can be achieved only if the Commission simultaneously ensures that all carriers, including those subject to retail rate regulation because they have been deemed “dominant,” will have significant flexibility in the manner in which they charge end users for the services currently subject to access charges. The Commission would not achieve what it has set out to achieve if, in adopting bill-and-keep, it did no more than shift the current market-insensitive structure of access charge payments from IXCs to end users. Instead, incumbent LECs should be permitted to experiment, just as wireless carriers and CLECs now do, with a range of flat-rated and usage-sensitive plans **for** their subscribers.

Finally, although the elimination of access charges would require end users in high cost areas to bear much greater responsibility for the unusually high cost of serving them, the Commission should address that concern through appropriate adjustments to existing universal service mechanisms. In so doing, the Commission may need to increase federal universal service funding to defray some of the cost of serving those end users, but only to the extent that those end users would otherwise pay *rates* that exceed an appropriate benchmark. Moreover, the Commission should consider exercising its statutory discretion to expand the base of universal service contributors to include all providers of “telecommunications,” including, for example, providers of cable modem service.

The final section of these comments addresses the Commission’s legal authority to impose bill-and-keep for all traffic that uses the public switched network. With the possible

exception of intrastate access charges, the Commission has such legal authority with respect to all such traffic, including traffic that falls within the scope of 47 U.S.C. § 251(b)(5). Although the accompanying pricing provision – section 252(d)(2) – is ambiguous in a number of key respects, the bill-and-keep savings clause of section 252(d)(2)(B) confirms that, whatever else the statute may prescribe, it undoubtedly permits “arrangements that *waive* mutual recovery [of costs] (*such as bill-and-keep arrangements*).” 47 U.S.C. § 252(d)(2)(B) (emphasis added). Viewed in combination with section 252(d)(2)(A), that provision is most reasonably construed to give the Commission a *choice*, in prescribing a compensation scheme for any given class of traffic, between *either* bill-and-keep *or* a cost-based CPNP regime; and the Commission is free to choose the former rather than the latter if it believes that doing so would serve the public interest.

I. Bill-and-Keep Would Offer Substantial Advantages Over the CPNP and Access Charge Regimes.

The prevailing intercarrier compensation regime consists of two related systems. First, local traffic subject to section 251(b)(5) is governed by a pure CPNP scheme, in which the called party’s network collects full compensation from the calling party’s network for all of the costs of transporting and terminating a call. Second, conventional interexchange traffic, traditionally characterized by the involvement of *three* carriers in any given call, is governed by the “access charge” regime, in which the caller’s IXC pays both the calling party’s LEC and the called party’s LEC for all costs of originating and terminating the call.² One key feature those regimes

² The Commission devoted only one paragraph in the NPRM (§ 97) to the application of bill-and-keep to interstate access traffic. In that paragraph, the Commission noted that, while “[t]he long-term goal of this *NPRM* is to develop a uniform regime for all forms of intercarrier compensation, including interstate access,” it did not “anticipate implementing major changes to our access charge rules in the initial phase of this proceeding.” *Developing a Unified*

have in common is a pervasive need for regulation: because any given LEC is entitled to collect compensation from other carriers to recover costs associated with the LEC's own network, regulators must ensure that the rates charged bear some resemblance to the costs incurred.

Bill-and-keep would eliminate such intercarrier compensation and would instead require each carrier to *internalize* the costs of its network and pass them on to its own end users. Thus, particularly where those end users have choices among telecommunications providers, bill-and-keep would permit market forces, rather than regulation, to determine the best means for recovering those costs; and, in *all* circumstances, it would deprive carriers of any opportunity to exact supracompetitive rates from another carrier for the termination of any call. In a nutshell, that emphasis on simple, market-driven solutions to traditionally vexing regulatory problems explains why bill-and-keep is preferable to either CPNP or the access charge regime. Bill-and-keep is preferable to those alternatives *now* as a method of eliminating arbitrage opportunities, as the Commission has learned in the context of ISP-bound traffic. And, as discussed below, bill-and-keep will become even more preferable as competition continues to develop and the need for regulation of end user rates subsides. Because in this proceeding the Commission should pick a compensation rule to last well into this new century, it should choose a rule that is designed to accommodate, rather than frustrate, the development of full-blown competition in this industry.³

Inter-carrier Compensation Regime, Notice of Proposed Rulemaking, CC Docket No. 01-92, FCC 01-132 (rel. Apr. 27, 2001) ("NPRM"). The Commission explained that, under the so-called *CALLS* plan, the structure of current access charge regime for price-cap LECs will persist, with some modifications, until the expiration of the plan on June 30, 2005. *See Access Charge Reform*, Sixth Report and Order, 15 FCC Rcd 12962 (2000) ("CALLS Order"). A similar transitional plan has been proposed for non-price cap LECs. *See Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, Notice of Proposed Rulemaking, 16 FCC Rcd 460 (2001).

³ Under the Commission's current rules for "local" traffic covered by 47 U.S.C. § 251(b)(5), a terminating carrier is entitled to collect, within the category of "termination," only the costs of

A. Bill-and-keep is the most direct, deregulatory solution to the terminating access monopoly problem.

At its root, the problem of intercarrier compensation arises because there are many telecommunications networks in the world, calls must cross from one network to another, and some rule must govern how compensation for the costs of those calls should be allocated across those networks. The traditional solution is to permit the terminating carrier to charge the originating carrier (or the IXC) for its costs in completing the call. The most basic flaw in that approach is that the terminating carrier has an obvious incentive to charge other carriers rates that exceed compensatory levels. Moreover, because the terminating carrier typically controls the only switch and only line leading to the called party (and thus enjoys a so-called “terminating access monopoly” in placing calls to that party), it often has not just the incentive, but also the ability, to charge extracompensatory rates to the other carriers, unless regulators step in to cap the rates. *See NPRM* ¶ 53.

end-office switching; it may not recover any portion of its fixed loop costs, which are borne entirely by that carrier’s end users. *See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499, 16024-25 ¶ 1057 (1996) (“Local Competition Order”); *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Intercarrier Compensation for ISP-Bound Traffic*, Order on Remand and Report and Order, CC Docket Nos. 96-98 and 99-68, FCC 01-131 (rel. Apr. 27, 2001) ¶ 68 (“ISP Reciprocal Compensation Order”). (Under the existing access charge regime, the regulatory *goal*, though not in all cases the current *practice*, is to remove loop costs from the charges that IXCs pay LECs.) Thus, the most straightforward difference between bill-and-keep and CPNP is that, under CPNP, the originating carrier compensates the terminating carrier for the costs of end office switching (in addition to transport), whereas under bill-and-keep the terminating carrier absorbs those end office switching costs itself. The question of transport is somewhat more complicated: as discussed, under both CPNP and *some* but not *all* versions of bill-and-keep, the originating carrier pays all the costs of transport. (Under the access charge regime governing interexchange calls today, the IXC pays the applicable transport costs.) We discuss these distinctions in greater detail below.

So long as one carrier may charge others for the costs of terminating calls, this “terminating access monopoly” would be a problem even under the best of circumstances. The terminating carrier could often succeed in imposing extracompensatory rates even if the carriers that must pay them were able (and they usually are not) to flow them back to their own end users. That is so because those end users typically have no control over the *terminating carrier’s* subscribers and thus are likely to have little leverage in persuading those subscribers to choose a different carrier with lower terminating rates. As it happens, existing regulation makes the problem even worse, because it generally *precludes* the originating carrier or the IXC from flowing a particular terminating carrier’s charges back to the calling parties or from assessing those charges on the terminating carrier’s own customers. For example, state regulators often (though not always) preclude incumbent LECs from imposing usage-sensitive rates on residential subscribers for local calls; that is one reason why incumbent LECs have complained that their end users lack adequate price signals to use the local network efficiently when placing dial-up calls to ISPs. An analogous restriction arises in federal law under 47 U.S.C. § 254(g), which requires IXCs to spread their recovery of access charges across their entire customer base – and therefore shields the calling party from any awareness of, much less any need *to* complain about, the access charges assessed by the terminating LEC.⁴

Properly implemented, bill-and-keep would address the very root of the terminating access monopoly problem by depriving the terminating carrier of the right to collect from another carrier any amount for the termination of a call. Conversely, so long as the Commission retains the CPNP and access charge regimes, the terminating access monopoly problem will

⁴ See 47 U.S.C. § 254(g) (“the rates charged by providers of interexchange telecommunications services to subscribers in rural and high cost areas shall be no higher than the rates charged by each such provider to its subscribers in urban areas,”).

persist and, particularly when combined with regulatory restrictions on the flow-back of terminating carrier charges to calling parties, will always create a need for regulation to keep those charges under control. Such regulation has traditionally taken the form of access charge regulation (for interexchange calls) and reciprocal compensation rules (for local calls). Indeed, the consequences of the terminating access monopoly are so acute that the Commission recently had to take the unusual step of subjecting CLECs to its general rate regulation authority under section 201 of the Communications Act, limiting the access charges that CLECs may assess IXCs for the termination of interexchange calls.⁵

The Commission's need to exercise that general ratemaking authority over CLECs is a powerful sign that something fundamental is wrong with the existing intercarrier compensation regime. Over the long term, as consumer choices expand, fewer and fewer carriers will be dominant, and more and more carriers should be freed from any need for regulatory oversight of the rates they charge their end users. Put another way, in the long run, most carriers will be CLECs, whether or not they once were ILECs. In its starkest terms, therefore, the question here is whether it makes sense, as an intercarrier compensation policy for the new competitive telecommunications era, to subject all carriers (including CLECs) to more regulation rather than less. As discussed in the following sections, the answer is plainly no, and bill-and-keep – which would resolve the terminating access monopoly problem potentially *without* regulation – is a far preferable alternative.

⁵ See *Access Charge Reform, Reform of Access Charges Imposed by Competitive Local Exchange Carriers*, Seventh Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 96-262, FCC 01-146 (rel. Apr. 27, 2001).

B. Properly implemented, bill-and-keep would leave the question of cost recovery, as much as possible, to market forces rather than regulation.

Few issues have been the subject of greater regulatory controversy in recent years than (i) what the “true” costs of terminating telecommunications traffic are, (ii) what the most rational rate structure for recovering such costs is (*e.g.*, per minute vs. flat-rated, the proper role for “peak load” considerations, etc.), and (iii) whether termination costs are typically the same for one class of carriers (such as incumbent LECs) as they are for another (such as CMRS providers or those CLECs that specialize in ISP-bound traffic). And, as the Commission itself has acknowledged, regulators, despite their expertise and dedicated effort, are unlikely ever to set termination rates at truly efficient levels. *See ISP Reciprocal Compensation Order* ¶¶ 75-76. That is so for several independent reasons.

First, it may be *conceptually* impossible for any regulator to devise a single, economically rational mechanism for recovering termination costs. In a traditional business with low fixed and substantial incremental costs, a company is expected to set price at marginal cost. But one attribute of a typical telecommunications network (and of any industry with very high fixed costs and low marginal costs) is that, at all points on the supply-demand chart, average cost exceeds marginal cost. Thus, setting prices at marginal cost would obviously leave the telecommunications company unable to recover its fixed costs.

That attribute traditionally fueled the beliefs that a telecommunications network is a natural monopoly; that one carrier (*e.g.*, the Bell System) should provide ubiquitous services within a particular calling area with minimal interconnection obligations; and that rates could be adjusted to reflect a wide range of different political and social goals so long as that carrier’s cost recovery was sufficient in the aggregate. Ever since MCI began offering services in competition with the Bell System, however, regulators have struggled with the problem of setting intercarrier

rates for recovery of costs. There is no economically satisfying solution to that problem, because (1) individual calls “cause” only very small (and sometimes negligible) marginal costs, and (2) every carrier must find some way to recover its fixed costs over time. Traditionally, the Commission has regulated money flows from one carrier to another largely (though by no means entirely) on a per-minute basis, even as it has looked for additional ways to convert per-minute charges into flat-rated ones.⁶ For example, that per-minute cost-recovery framework has largely governed access charges and compensation for LEC-to-LEC traffic, including ISP-bound traffic.

But per-minute cost recovery – and, more generally, any single regulatory plan for intercarrier cost recovery – inevitably fails to reflect the way in which costs are actually incurred. The case of transport and termination costs, the costs principally at issue in this proceeding, is particularly instructive. A carrier incurs most such costs not when it terminates a given call, but when it purchases the switching capacity necessary to ensure that the call can be terminated during the peak load portion of the day. *See, e.g., ISP Reciprocal Compensation Order* ¶ 76. Indeed, for that reason, per-minute termination pricing arguably creates a cross-subsidy running from those who use the network principally during off-peak hours to those who use it principally during peak hours. Of course, regulators could try to tweak the system such that carriers charge more for use during peak periods, an approach analogous to a cost-recovery methodology sometimes used in the electric power industry.⁷ But, even apart from the pragmatic obstacles to

⁶ *See CALLS Order*, 15 FCC Rcd at 13017 ¶ 134; *Access Charge Reform*, First Report and Order, 12 FCC Rcd 15982, 16034-35 ¶¶ 123-24 (1997); *see also Access Charge Reform*, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221, 14327-33 ¶¶ 208-225 (1999) (“Pricing Flexibility Order”).

⁷ *See* W. Kip Viscusi, John M. Vernon & Joseph E. Harrington, *Economics of Regulation and Antitrust* 379-86 (3d ed. 2000).

that approach (discussed below), that arrangement would also misrepresent the inevitably lumpy manner in which costs (*i.e.*, the costs of the necessary switching capacity) are incurred.⁸

Second, even if it were *conceptually* possible for regulators to set cost-sensitive rates to recover termination costs, the pragmatic obstacles might nonetheless be insurmountable. To begin with, switching technology changes over time, and regulation simply cannot keep pace with the latest cost-reducing developments. Also, because different carriers have different network architectures and termination facilities, they have different costs of termination, and it would be nearly impossible for regulators to address those costs on a carrier-by-carrier (or switch-by-switch) basis. As the Commission has rightly observed, “there may be administrative difficulties in establishing peak-load pricing schemes that may outweigh the benefits,” since the differences in termination costs “are likely to vary depending on the network, and the amount and type of traffic terminated at a particular switch.” *Local Competition Order*, 11 FCC Rcd at 16028-29 ¶ 1064; *accord ISP Reciprocal Compensation Order* ¶ 76.

By definition, bill-and-keep would resolve many of these problems so long as every carrier has some flexibility in the assessment of retail end user rates. The most immediate benefits of bill-and-keep would appear in the form of a much smaller role for regulation in the business practices of CLECs and, where competition has freed them from traditional rate regulation, incumbent LECs as well. In those settings, the core advantage of bill-and-keep is that it would allow carriers to come up with menus of creative pricing plans to recover (from end users) the costs of the network generally, including the costs of terminating traffic. Where competition has developed, those plans would be subject to full-blown market pressures: if the

⁸ As discussed below, many of these concerns also apply to transport costs, which are lumpy as well. Cables and fibers used for such transport are installed in bulk, not on an incremental strand-by-strand basis as they are needed.

rates are too low, the carrier will fail to recover its costs, and if they are too high (compared to what other carriers offer), consumers will switch to other carriers. Those market pressures are much more likely than regulatory prescriptions to produce efficient results.

As discussed in Section III below, a true solution to this set of problems would require a commitment, not just to bill-and-keep, but also to some flexibility in the rates that carriers may charge their end users for the recovery of costs that used to be recovered from other carriers. But bill-and-keep would remain a necessary element of the solution for the reasons discussed elsewhere in this section. Moreover, precisely *because* it shifts the cost recovery responsibility to end users rather than other carriers, bill-and-keep would permit far greater flexibility, and thus far greater efficiency, than the existing intercarrier compensation schemes in the recovery of termination costs, even if those resulting rates are still subject to regulatory oversight. That is because a carrier has a steady, one-to-one relationship with any given subscriber that it does not have with the multiplicity of other carriers. A carrier and its subscriber can enter into a variety of efficient plans customized to their particular needs – *e.g.*, a large bucket of minutes for a flat monthly fee. Under the existing compensation schemes, by contrast, each carrier may generally *have* to recover costs from every other carrier on a call-sensitive basis because there may be no other feasible way to allocate such costs *among different carriers*. That fact alone may typically preclude any non-usage-sensitive rate structure for the recovery of termination costs under any CPNP regime.

C. Bill-and-keep would reduce opportunities to engage in regulatory arbitrage and anticompetitive uncertainty about the future course of regulation.

Any time a regulator sets intercarrier compensation rates at levels that do not faithfully track the frequently changing costs of the work performed – a problem that, as discussed, will beset any effort to approximate termination costs with regulated rates (*see ISP Reciprocal*

Compensation Order ¶¶ 75-76) – the inaccuracy will give rise to destabilizing arbitrage opportunities. The most notorious example involves the termination of ISP-bound traffic. Although many CLECs have provided a variety of services to a broad base of customers, some CLECs have specialized in the termination of traffic to ISPs. CLECs have done so not because that class of services creates greater overall *value* than other telecommunications services, but principally because (until the Commission intervened this past April) the prescribed termination rates exceeded the underlying costs of termination, and the CLECs in question were thus able to extract extracompensatory subsidies from originating carriers. *See ISP Reciprocal*

Compensation Order ¶¶ 67-76. As discussed above, that problem was exacerbated by the fact that most incumbent LECs cannot flow those extracompensatory costs back to the end users that make the calls at issue, because, given existing regulatory obstacles, most incumbents cannot generally charge residential subscribers usage-sensitive rates for local traffic or dial-up Internet-bound traffic. As a result, the end users initiating such traffic received no price signals encouraging them to use the network efficiently.

Moreover, because the effects of regulation on the marketplace are so unpredictable, the short-term arbitrage opportunities created by regulation sow uncertainty and instability, and those factors in turn impair rational investment decisions.⁹ That is one essential lesson of the ISP reciprocal compensation experience: whenever a regulatory arbitrage opportunity arises, a few carriers will adopt business plans designed primarily to take advantage of that opportunity. At

⁹ Arbitrage opportunities can also retard the deployment of value-creating new services to consumers. For example, DeGraba claims that, “[b]ecause the use of per-minute termination charges appears to be incompatible with the use of packet-switched technology, carriers that terminate more traffic than they originate may well refuse to cooperate with other carriers in jointly adopting compatible packet-based technologies if this means that they will lose reciprocal compensation revenues.” DeGraba ¶ 85.

that point, changing the rules to restore regulatory rationality can cause severe economic dislocations.

Bill-and-keep would reduce these inefficient arbitrage opportunities by requiring each carrier to internalize its own costs of termination, thereby replacing regulatory solutions to the question of cost-recovery with market-driven solutions. The example of ISP-bound traffic is instructive. So long as originating LECs must pay for the costs of terminating such traffic, and so long as they are barred from “flowing back” those costs to the particular end users that cause them, the result will be economically inefficient on two levels: termination rates will imperfectly match termination costs, and – just as important – cost causers will receive no price signals (from either a carrier or an ISP) to use the network efficiently.

Bill-and-keep would largely eliminate both of those problems. A CLEC providing termination services to an ISP, for example, would negotiate a price with the ISP itself to cover the costs of termination, and the products of such free-market negotiation would almost certainly approximate “true” termination costs more effectively than regulation could. Similarly, bill-and-keep would, in those same circumstances, provide what CPNP can never provide (at least in the absence of any flow-back mechanism): price signals for end users to use the network efficiently. In particular, since bill-and-keep would require ISPs, rather than originating LECs, to pay for the costs of termination, those ISPs would often have, for the first time, an incentive to ensure that their own subscribers use the network with greater efficiency.

A different regulatory dilemma that has arisen from existing intercarrier compensation schemes concerns the recent growth of Internet telephony services. The popularity of Internet telephony has grown in part because enhanced services are typically exempt from access charges

under current regulation.” The contours of that “access charge exemption,” however, are unclear. For example, some IXCs claim that *any* voice traffic employing IP is subject to the access charge exemption, even when it is otherwise indistinguishable from conventional long-distance traffic, a position that, in Qwest’s view, is inconsistent with existing Commission policy. So long as the access charge regime persists in anything like its current form, however, disputes concerning the scope of the exemption will assume extraordinary importance as the technology for delivering interexchange voice calls through Internet protocol (“IP”) becomes more and more efficient. To ensure technological neutrality in this setting, the Commission could either repeal the access charge exemption but do nothing else or it could eliminate the access charge regime to which the exemption applies. Because that regime is itself fatally flawed for the reasons discussed elsewhere in these comments, Qwest supports the latter option.

The arbitrage issues raised by Internet telephony and those raised by intercarrier compensation for ISP-bound traffic may differ in a number of respects, but they share two principal characteristics. First, they reveal that the multiplicity of compensation schemes for different classes of traffic enormously complicate predictions about the regulatory obligations of any given carrier with respect to any other carrier. Second, and more generally, they both point to the disconcertingly prominent role that regulation has assumed in shaping the business plans that define the present and future course of this industry.

The ultimate shape of the telecommunications world should not turn on the outcome of such academic regulatory disputes as whether a LEC-to-CLEC handoff of ISP-bound traffic is more “like” an ordinary exchange of local traffic or more “like” the cooperation of two LECs in

¹⁰ See generally *Federal-State Joint Board on Universal Service*, Report to Congress, **13** FCC Rcd 11501 (1998) (“1998 Report to Congress”).

the origination and termination of conventional interexchange traffic. Nor should it turn on the fine points of distinction between “computer-to-computer” versus “phone-to-phone” IP telephony. *See 1998 Report to Congress*, 13 FCC Rcd at ~~11543-44~~ ¶¶ 87-88. The Commission should drain such disputes of their principal significance – and eliminate the anticompetitive uncertainty that they have sown – simply by adopting bill-and-keep as the single compensation rule for the hand-off of all traffic over the public switched network for any traffic that touches that network.”

Finally, although the Commission had once expressed concern that bill-and-keep would create inefficient incentives for carriers to specialize in *originating* traffic, it has since suggested that this concern may have been somewhat overstated. As it now observes, “[a] carrier must provide originating switching functions and must recover the costs of those functions from the originating end-user, not from other carriers. Originating traffic thus lacks the same opportunity for cost-shifting that reciprocal compensation provides with respect to serving customers with disproportionately incoming traffic.” *ISP Reciprocal Compensation Order* ¶ 73. Of course, it is always hazardous to predict that any given regulatory regime, even a minimalist one such as bill-and-keep, will produce no regulatory anomalies. But we fully agree with the Commission that bill-and-keep is far less likely to produce such anomalies than the CPNP regime has already been shown to produce.

¹¹ The Commission has not sought comment on intercarrier compensation for any hand-off of information service traffic to an Internet backbone. *Cf. NPRM* ¶ 2. In the backbone context, compensation issues have worked themselves out without any government involvement at all: no backbone provider is dominant; “peers” drop traffic off to other peers at the closest point of interconnection; and although non-peers must typically pay for transport **and** termination services from other backbone providers, those services are typically quite competitive. *See generally* Michael Kende, “The Digital Handshake: Connecting Internet Backbones,” OPP Working Paper #32 (2000).

D. Bill-and-keep is at least as consistent as CPNP with principles of cost causation.

Supporters of the existing CPNP approach claim that bill-and-keep is inefficient because it does not place all the costs of a call on the party that initiates the call. Although bill-and-keep is not a perfect cost-allocation scheme, it is nonetheless at least as efficient, and perhaps more so, than CPNP in this respect.

In any call, both the calling party and the called party make choices that result in the accrual of costs. A calling party chooses to place a call and, at every moment during the call, chooses whether to allow it to continue. The called party chooses whether to accept the call and also chooses, at each point after the first moment, whether to maintain the connection. (To be sure, as discussed below, the terminating carrier typically has no control over whether it incurs call set-up costs; it is in that respect at the mercy of the calling party.) For its part, the terminating carrier makes investment choices that determine the efficiency of its network architecture and termination technology, and those choices also affect the level of costs associated with the receipt of a call.

Under the CPNP regime, the called party and its carrier bear none of the costs of the call, even though each is in a position to reduce those costs (the called party by hanging up sooner, and the terminating carrier by cutting termination costs). That approach is inherently inefficient: because both the called party and its carrier are able to reduce the costs incurred in a call, they should bear some responsibility for paying those costs. Indeed, at least in theory, the CPNP regime could deter many calls from being made even when the aggregate benefits of a call to both parties exceed any usage-sensitive costs of the call, at least where the two parties have no independent business relationship and the originating party has no firm expectation that the called party will reciprocate in the future with an all-expenses-paid call of his own. For example,

if the cost of an interexchange call (**or** a local call billed on a usage-sensitive basis) is **3**, and each party to the call would derive from it a benefit of **2**, the call *should* be made from an efficiency perspective, but is *unlikely* to be made unless its costs can be spread out to each party that benefits from it.

For these reasons alone, a bill-and-keep scheme is as efficient as any CPNP approach. It gives calling parties appropriate incentives to make efficient calls that would not otherwise be made; it gives called parties appropriate incentives to end calls earlier if their continuation would be inefficient; and it places greater obligations on each carrier to internalize the costs of its network, thereby inducing each carrier to ensure that it employs efficient termination technology.¹² Bill-and-keep may not embody the perfectly efficient solution to the problem of cost causation: the share of costs a called party may appropriately be said to “cause” is a complex issue, and the “true” share (however defined) may well be different from the share that the called party would be expected to bear under any particular version of bill-and-keep. But, at a minimum, the solution bill-and-keep prescribes to the cost causation problem is no more arbitrary than the solution prescribed under the CPNP approach.

11. The Question of Transport Requires Considerable Analysis and Deliberation.

Under any bill-and-keep regime, a carrier would be expected to provide its own terminating switches and loops and, as a general matter, would be precluded from recovering the costs of those facilities from originating carriers. There remains the problem of assigning

¹² Of course, even under a CPNP regime, carriers will have a substantial incentive to reduce their termination costs, because (1) regulated termination rates tend not to be based on the actual termination costs of any given carrier other than the incumbent LEC, and (2) many calls will require a carrier to internalize termination costs no matter what the intercarrier compensation scheme, because those calls will have *originated* on the terminating carrier’s network as well. Nonetheless, at the margin, bill-and-keep does present some additional incentive beyond what CPNP would provide to ensure efficiency in termination.

responsibility for providing the transport necessary to ensure physical interconnection between the networks of two carriers. As discussed below, the transport question is sufficiently complex that the Commission should seek extensive comment before settling upon any definitive answer. But that should not deter the Commission from (1) acting now in adopting bill-and-keep, in principle, as its intercarrier compensation rule and (2) sharpening the additional inquiry into the transport question by identifying the key characteristics, discussed below, of an optimal transport default rule.

A. The concept of POIs.

One central concept in any discussion of transport is the “point of interconnection,” or “POI.” It is important to distinguish between two related but distinct uses of the term “POI.” A *physical* POI is the place where two networks actually interconnect. For example, the POI between a LEC and an IXC is typically the latter’s “point of presence” (or “POP”) at the edge of the former’s network. And, “for the transmission and routing of telephone exchange service and exchange access,” an incumbent LEC must provide physical interconnection to “any requesting telecommunications carrier,” including any CLEC or **CMRS** provider, at “any technically feasible point within” the incumbent’s network. 47 U.S.C. § 251(c)(2).

A *financial* POI is the demarcation point signifying where one carrier’s responsibility to cover the costs of a call begins and the other carrier’s responsibility ends. That financial POI may or may not coincide with the physical POI. For example, the physical POI between a LEC and an IXC is the POP, but, under the current access charge regime, the MC bears financial responsibility to the LECs on either side of an interexchange call for the costs of originating, transporting, and terminating the call from one end user to another; the relevant financial POIs are thus, in effect, the location of those end users (or, more precisely, points somewhere between

the end users and their central office switches, depending on the applicable access charge rules). Similarly, although CLECs or **CMRS** providers may generally demand physical interconnection under section 251(c)(2) “at any technically feasible point” within an incumbent LEC’s network, the financial POI under CPNP is often far removed from that point, since an originating carrier must cover the transport and termination costs of the terminating carrier. By contrast, the financial POI for adjacent, non-competing incumbent LECs often does coincide with the location of the relevant physical POI.

This description of physical and financial POIs provides an important, alternative way to conceptualize how bill-and-keep operates in practice. In essence, a bill-and-keep regime is **an** approach to intercarrier compensation that, among other things, establishes a *financial* POI between two carriers at some point between the originating carrier’s network and the terminating carrier’s central office, irrespective of the *physical* POI that those carriers might ultimately choose. For example, under the default rule proposed by DeGraba (discussed in more detail below), a carrier would have financial responsibility for delivering a call to the terminating carrier’s central office, but it may well choose to purchase transport from the terminating carrier for a portion of the way. In those circumstances, the physical POI could fall in any number of places between the two carriers’ networks, but the financial POI (under the default rule) would remain the terminating carrier’s central office. In that sense, what DeGraba proposes is a relatively limited form of bill-and-keep; a more comprehensive form might move the financial POI closer to the edge of the terminating carrier’s network.

One central objective of the current proceeding is to define a technology-neutral rule for the financial POI that would be applicable to any hand-off of telecommunications on the public switched network, irrespective of legacy regulation. As discussed more fully below, such a rule